IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Andrew W. Dornbusch et al.		
Title:	Integrated Circuit Suitable for Use in Radio Receivers		
App. No.:	10/691,212	Filed:	10/21/2003
Examiner:	CHU, Chris C.	Group Art Unit:	2815
Atty. Dkt. No.:	1052-0009	Confirmation No.:	8353

MAIL STOP APPEAL
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

REMARKS IN SUPPORT OF THE PRE-APPEAL BRIEF REQUEST FOR REVIEW

Dear Commissioner:

In response to the Final Office Action mailed March 6, 2008 (hereinafter "the Final Action") and pursuant to the Notice of Appeal and Pre-Appeal Brief Request for Review submitted herewith, the Applicants request review of the following issues on appeal. In order to facilitate full consideration of the remarks filed herewith, the Applicants respectfully request that the Art Unit Supervisor designate a panel composed of at least three examiners.

The pending claims are definite

The Office objects to the claim language "wherein said first and second terminal pairs are separated by a first predetermined distance sufficient to maintain an input-to-output isolation attenuation therebetween of not less than a first stopband attenuation of the first external filter" and similar claim language. In particular, the Office objects to the claim phrase "not less than a first stopband attenuation of the first external filter" as failing to define the metes and bounds of the claims. The Office's rationale for this rejection is that because 1) "the stopband attenuation specifies the minimum amount of **attenuation** a filter will exhibit at a designated frequency or range of frequencies, which lie outside the pass band" and 2) the claim fails to recite "a specific number of the first stopband attenuation nor [whether] is a positive or negative integer number", "any attenuation between negative infinity numbers and positive infinity numbers could reads as the first stopband attenuation of the first external filter." *Final Action*, p. 3 (emphasis in original). On the basis of this rationale, the Office asserts that the claims will need to recite

particular values for the first stopband attenuation and the "first predetermined distance" in order to be rendered definite. The Applicants disagree.

With respect to the Office's argument that the first stopband attenuation of the external filter could be between negative and positive infinity and thus is unclear, the Applicants respectfully submit that while in theory an ideal filter could have an infinite attenuation, no known filter in application has an infinite attenuation, much less an infinite stopband attenuation, nor has the Office provided evidence of an actual filter having infinite attenuation. Further, that the claims do not recite a particular value for the first stopband attenuation does not render them indefinite. Rather, one of ordinary skill in the art will readily appreciate that the external filter for which the first pair of bonding pads are configured to be conducted to (as recited by the claims) will have a particular finite, measurable stopband attenuation, and the claims clearly provide that the "first and second terminal pairs are separated by a first predetermined distance sufficient to maintain an input-to-output isolation attenuation therebetween of not less than" this stopband attenuation. Further, the input-to-output isolation between terminal pairs of an integrated circuit is related to the distance between the terminal pairs and is finite and measurable or capable of being accurately estimated. Techniques to do so are well-known, such as via RF modeling using a computer-aided-design (CAD) modeling program. *See, e.g., Present Application*, para. 0033. Thus, in view of the teachings of the Present Application, one of ordinary skill in the art, having obtained the stopband attenuation of an external filter from a data sheet or via measurement or modeling, can adjust the distance between terminal pairs respectively connected to the input and the output of the external filter using, e.g., a CAD modeling program until the resulting input-to-output isolation attenuation between the terminal pairs is at least as great as the obtained stopband attenuation of the external filter as taught by the Present Application. Accordingly, it is respectfully submitted that the language of the claims is clear and sufficiently defines the metes and bounds of the claimed subject matter.

Hikita fails to disclose or suggest a number of features recited by the claims

Claims 1-3, 5-7, and 21-23, and 31 are rejected under 35 U.S.C. § 102(b) as anticipated by Hikita (U.S. Patent No. 6,396,154) and claims 4, 8-4, 24, and 25 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hikita. Independent claim 1 recites the features of "wherein said first and second terminal pairs are separated by a first predetermined distance sufficient to maintain an input-to-output isolation attenuation therebetween of not less than a first stopband

attenuation of the first external filter." As discussed at page 10 of the Submission and Response mailed September 17, 2007 and at pages 10 and 11 of the Response mailed December 27, 2007, Hikita fails to contemplate a stopband attenuation of an external filter, or any other operational attenuation for that matter. Further, Hikita fails to disclose or suggest contemplating a *predetermined* distance sufficient to maintain an input-to-output isolation attenuation that is not less than the stopband attenuation of an external filter, much less that that first and second terminal pairs of an integrated circuit are separated by such predetermined distance as provided by claim 1. In response, the Office contends that

> the first stopband attenuation could be any number between negative infinity numbers and positive infinity numbers [sic]. If we measure a stopband attenuation of any filter at one point that is the lowest value of the operational attenuation of the filter and measure the input-to-output isolation attenuation at it's highest point, then the value of the input-to-output isolation is always greater [than] the lowest value of the stopband attenuation of any filter. Since Hikita et al. discloses a filter, [...] Hikita et al. fully anticipates [the above recited claim features].

Final Action, p. 6.

As noted above, one of ordinary skill in the art will appreciate that an external filter does not have an infinite stopband attenuation, but rather a finite and measurable attenuation. As also noted above, the input-to-output isolation attenuation between terminal pairs of an integrated circuit is finite and measurable or estimable and is based on the distance between the terminal pairs. Thus, contrary to the Office's assertions, the input-to-output isolation between terminal pairs is not "always greater" than the stopband attenuation of an external filter. Hikita fails to contemplate an external filter, a stopband attenuation of an external filter, an input-to-output isolation attenuation between terminal pairs, how such input-to-output isolation attenuation is affected by distance, or a predetermined distance between the terminal pairs to achieve any particular input-to-output isolation attenuation in any manner, so Hikita necessarily fails to disclose or even suggest that an integrated circuit having terminal pairs configured to be coupled to an external filter via terminal pairs has those terminal pairs separated by a *predetermined* distance sufficient to maintain an input-to-output isolation attenuation therebetween of not less than the stopband attenuation of an external filter as provided by claim 1.

Independent claim 21 recites the features of "wherein said first pair of terminals and said second pair of terminals are separated by a predetermined distance sufficient to maintain an

input-to-output isolation attenuation therebetween that not less than a stopband attenuation of said external filter." As similarly discussed above with reference to claim 1, Hikita fails to disclose, or even suggest, these claimed features and thus Hikita fails to disclose each and every feature presently recited by claim 21.

Dreifus and Hayashi fail to disclose or suggest a number of features recited by the claims

Claims 15-19 and 30 are rejected under 35 U.S.C. § 102(b) as anticipated by Dreifus (U.S. Patent No. 5,576,589) and claim 20 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Dreifus in view of Hayashi (U.S. Patent No. 6,329,715). Independent claim 15 recites the features of "wherein said first terminal and said second terminal are separated by a first predetermined distance sufficient to maintain a first input-to-output isolation attenuation therebetween that is not less than a first stopband attenuation of the first external filter, and wherein said third terminal and said fourth terminal are separated by a second predetermined distance sufficient to maintain a second input-to-output isolation attenuation therebetween that is not less than a second stopband attenuation of the second external filter." As discussed at page 11 of the Submission and Response mailed September 17, 2007 and at pages 11 and 12 of the Response mailed December 27, 2007, Dreifus fails to contemplate an operational attenuation of an external filter in any manner, much less a stopband attenuation. Dreifus also fails to disclose or suggest that first and second terminals of an integrated circuit are separated by a *predetermined* distance sufficient to maintain an input-to-output isolation attenuation therebetween that is not less than an stopband attenuation of an external filter as provided by claim 15. Hayashi fails to compensate for the deficiencies of Dreifus with respect to these claim features.

The Office responds by asserting the same rationale asserted under Hikita, namely that the measured input-to-output isolation attenuation will always be greater than the lowest measured operational isolation of an external filter. As discussed above, this rationale finds no support in the disclosures of Dreifus, particularly with respect to the stopband attenuation of an external filter, and therefore fails to support an assertion that Dreifus discloses or suggests the features of "wherein said first terminal and said second terminal are separated by a first *predetermined* distance sufficient to maintain a first input-to-output isolation attenuation therebetween that is not less than a first stopband attenuation of the first external filter, and wherein said third terminal and said fourth terminal are separated by a second predetermined

distance sufficient to maintain a second input-to-output isolation attenuation therebetween that is not less than a second stopband attenuation of the second external filter" as recited by claim 15.

Hazama fails to disclose or suggest a number of features recited by the claims

Claims 26, 27, and 29 are rejected under 35 U.S.C. § 102(b) as anticipated by Hazama (U.S. Patent No. 4,296,391) and claim 28 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Hazama. Independent claim 26 recites the features of "wherein said adjacent first and second terminals and said adjacent third and fourth terminals are separated by a first *predetermined* distance sufficient to maintain an input-to-output isolation attenuation therebetween that not less than a first stopband attenuation of said first external filter" and "wherein said adjacent fifth and sixth terminals and said adjacent seventh and eighth terminals are separated by a second *predetermined* distance sufficient to maintain an input-to-output isolation attenuation therebetween that is not less than a second stopband attenuation of said second external filter." Hazama fails to contemplate a stopband attenuation of an external filter in any manner, much less that terminals of an integrated circuit are separated by a *predetermined* distance sufficient to maintain an input-to-output isolation attenuation therebetween that is not less than a stopband attenuation of an external filter as provided by claim 26. Accordingly, Hazama fails to disclose, or even suggest, each and every feature presently recited by claim 26.

CONCLUSION

As discussed above, the Office fails to establish that the proposed combinations of the cited references disclose or suggest each and every element recited by any of the pending claims. Accordingly, reconsideration and withdrawal of these rejections is respectfully requested.

Respectfully submitted,

/ryan s davidson/ 2008-May-29

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